## The Chairman: Do you mean to say that these lamps are giving the about the quantity of these lights. I arc, what is the matter with the lighting. Before Special Committee of City Mr. Faught: As explained by my out actual equipment to conduct the It migners testimony. The Chairman: Have you seen the business going on the street is badly things. The Chairman: How that they are conducted if the company did not only the pere la Council to Examine into Electric lamps and do you know that they are giving the proper light? The Chairman: Have you seen the business going on the street is daily conducted if the company did not have a globe to substitute in the Light Situation.

## Testimony in Behalf of Alexandria Electric Co. are talking about.

(Continued from Page 4)

the lamps.

closed lamp?

Answer: No. No street lamp com-

Question: How did that term come

Answer: They would.

I might add that the 7 1/2 am-

491 watts, when properly adjust-

Mr. Harlow: Here is the original.

Mr. Faught: Yes, sir.

ditions of the contract.

Mr. Faught:

Mr. Harlow: Mr. Betts now being Question: Have you made an exstandard lamp?

present, Mr. Kirby, do you still refuse amination of the electric light situation. Mr. Faught: to be cross-examined on your prev- tion in Alexandria?

Mr. Harlow: I desire to have this statement spread on the record, previous to this hearing to have had Answer: None at all. If you put When this committee first met I re- any experience in the matter of the a certain amount of energy between be present at the hearings, and cross- light companies?

better call the committee together for thirty years, all of which are bright and probably more brilliant or agement; and state what you wanted to the lamps so furnished shall be of the dazzling near the lamp itself, the ildefinitities, and they decided that latest type enclosed alternating are furnishing radius was less?

Interval, that is while the old Schuyler light was not that is

Mr. Far

They defined that latest type enclosed alternating are furnishing radius was less?

they did not want you there.

was because he had seen three of the

which he could not have had any

I in finding out whether those ampere and the voltage. The two statements are true or not true, or terms of ampere and watt are not did. whether his statements should be en- necessarily synonymous, and, of M ti" d to consideration at all.

low be given opportunity to prove are untrue. He has his witnesses

The Chairman: I have a letter here from Mr. Harlow in which he states as the lamp to meet the requirements that he would like to have recalled of the so-called 2,000 candle power Lloyd, Mr. Kirby and Mr. Betts.

What his actions are are tual candle power? wn. of course, and we cannot di-

ir. Fisher: Now, I renew my mo- power or anywhere near it. tion that Mr. Harlow be given permis-

r. Spinks: I am satisfied that all mated it in candle power. yitnesses be sworn, if that is nec-

that power. We are holding an in- ment of the old lamps even? vest gation, and I make that motion.

Mr. Harlow: If Mr. Spinks in havshow that we will then have powto recall Mr. Kirby---Spinks (interrupting): I

he Chairman: Are you ready to opinion?

recall Mr. Kirby.

"he Chairman: Have we the log sheets for the past few months

ir. Fisher: You can assume the watt meters on the arc lamp circuits If the witnesses object they I find that the average consumption the night time? of these lamps is 511 watts. state their objections. Mr. Harlow: Do I understand that

Question: That consumption, I unting these witnesses on oath will alt in compelling Mr. Kirby to posed to be given under a contract of swer these questions, or in compelthis kind? ing him to be recalled? Answer: Four hundred and fifty Mr. Fisher: I don't know that watts would exactly fulfill the usual

putting them under oath? ou did not put your witnesses under pere alternating larp would operate

Mr. Spinks: I thought that it was cause these witnesses here would be sworn that Mr. Kirby did not output in kilo-watts in the arc light ant to testify here tonight. I with- circuits of this plant per month?

raw my motion. hether he will be sworn or not.

Harlow's witnesses to say.

all of the witnesses we have here are Electric Company? erfectly willing to be sworn, provided the witnesses which have previously testified before this committee better to have the original. be sworn. It is impossible at this ime to determine whether you can have those witnesses sworn or not, was made from the original. In Ocand I suggest that the testimony of tober it was 13,453; in November usual requirement. those who are here present be taken, 17,373; in December 18,840; Januand if your witnesses will afterwards ary 18,720; February 15,425; March unnecessary nesses will swear to theirs.

Mr. Harlow: Please state your

Mr. Faught: R. C. Faught. I am result would be practically the same. ampere coils? a representative of the General Elec- Those are the figures recorded by the tric Company. meters. The following questions by Mr.

you had in the electrical business?

I can't tell that.

or not the Fort Wayne lamp we have have was on that date considered a gave us part of a lamp because they lamps there would be no change expressibly meant a lamp of 2,000 on the dash pots. The third recomble power.

Answer: I have been inspecting would it make any difference, so far Mr. Kirby: He has nothing to do the plant, and the equipment and also as the effectiveness is concerned, the lamps.

whether this was an old or a new

Answer: None at all. If you put plant?

Mr. Harrison: Mr. Harlow, you ask you whether or not from the in- open lamp disbursed its maximum

failed to have an interview with me spection you have made today of the light at about 60 degrees below the

lighting business of enclosed alter- and the 40 degree angle the light is three or four years. Something like

as I understand you that the system have just heard Mr. Harlow read. Question: What is that equivalent is a 7.5 ampere system, do you or do which he could not have had any knowledge. I assume that the committee's report was made on Mr. Answer: That in an enclosed lamp mittee's resort was made on Mr. Answer: That in an enclosed lamp cumstances place the company in a mapere lamp which shall fulfiil the committee would be inter- be equivalent to the product of the quirements of this contract?

What the contract have you of the company in a mapere lamp which shall fulfiil the cumstances place the company in a mapere lamp which shall fulfiil the committee would be inter- be equivalent to the product of the quirements of this contract?

Mr. Faught?

You not consider that those two circumstances place the company in a mapere lamp which shall fulfiil the cumstances place the company in a mapere lamp which shall fulfiil the committee would be inter- be equivalent to the product of the quirements of this contract?

Mr. Faught?

You not consider that those two circumstances place the company in a mapere lamp which shall fulfiil the quirements of this contract, have you?

Mr. Faught?

I have not read the quirements of this contract?

Question: Is the 7½ ampere lamp were not permitted to cross-examine has told you, do you? n opportunity to prove question. Is the 172 ampere lamp were not permitted to cross-examine ents made by Mr. Kirby as usually and generally operated any witness who has previously testified, yet we are perfectly

Answer: It is. It has been used to do so. Mr. Faught: Yes, sir.

have all been notified in ac- fact it a little more than equals the and myself met you in the New Wil- on those matters. lard Hotel? Question: Is the enclosed alterna-Mr. Faught: Yes, sir.

Spinks: Were you not then here tonight, as the committee supposed to or can it give 2,000 ac- introduced to us as the representa-Faught: No, sir. I never

the General Electric Company. The Chairman thereupon put the having been so declared is a large never been a satisfaction. It is im- with that company? having been so declared, is a lamp perative that something be done in the near future to remedy the situa-Question: If these lamps at pres- tion and I would like to take the factory, working the most of the the individual lamp. watts or more, would they meet the

> at that time they were having some had with the arc lighting business? Question: Have you any personal trouble with carbon holders. Mr. Spinks: You remember receiv-

tage or watts consumed by these ing this letter from Mr. Betts while scientific education previously. he was employed by the Alexandria Answer: I have looked over the Electric Company? Mr. Faught: Yes, sir. and from the registration of the

Mr. Spinks: You have not made any inspection of this plant at all in Mr. Faught: No. sir.

derstand, is more than is usually sup- ble to falsify that log from which you have read; Mr. Faught: A man might write passes and lifts the carbon.

down the wrong readings, yes, sir.

from his office.

Mr. Faught: If anybody were so Answer: On this sheet of paper I course, just as if you were to write a of the lamp? copied the record for several months letter and make a false statement in the discretion of each witness of operation. In September the kilo- it. All I know is what that log sheet ing to do with the test. You insert watt hours output was 13,292; for shows and they are generally accepted as true. They are the records by test. All the current passes through Mr. Fisher (interrupting): Is that which the company bases their ex- that.

> ly kept correctly. Mr. Spinks: You stated that some Mr. Fisher: I think it would be of them ran away up to 6.. watts.

Mr. Faught: Yes, sir. Mr. Spinks: You say 450 would be This memorandum all that could be required? Mr. Faught: Yes, sir. That is the

Mr. Spinks: Is not that a lot of adjusting spring? expense running this Mr. Faught: No, sir. The major-

I have not figured them for the other Mr. Spinks:

You don't know months, but judging from the appear- whether or not up to today these ance of the figures I should say the lamps have been running with 71/2

Mr. Faught: No. sir; only the statement of Mr. Weller, and what fered here to the effect that these Question: Judging from the fig- these log sheets show. Mr. Spinks: You don't know any- ampere lamps to 7.5 ampere lamps.

ion, that from those figures these ledge about the plant? Answer: I should say that the amperes. That would indicate to me current.

light they should give? want to ask you, you are an expert, lamp?

Mr. Faught: As explained by my don't you think that a company withdon't you think that a company with- Answer: That is too much for me. Mr. Harlow: Have you ever known out actual equipment to conduct the It might be one of a number of such a lamp to be used for street have a globe to substitute in the pere lamp and change the coils to 7.5 Question: Would it be possible for knowledge, how many of those rec-briefly the meaning of light and ilMr. Faught: I have not seen them. place of one globe that they wanted without adjusting the other parts of this company to have such a lamp ommendations have been carried out? lumination growing into the question to take off?

Mr. Faught: It would look like

had no inner globe to substitute for cept in the series coil? the one they took down, nor an outer Question: With 7.5 ampere coils globe, and we have not got that, and it was stated that if a globe was to town at night? break on the street that they would have no other to replace it. You say you don't know anything about the town on the first of June?

quested the privilege of being allow- interpretation of electric lighting the carbon burners of any arc lamp their store room. I don't know any- member how long exactly. ed, as attorney for the company, to contracts between cities and electric the result in candle power would be thing about their supplies, of course.

and was then informed that the committee had changed its mind and desired to hold sessions behind closed the Alexandria, it is
doors for a while and that later they pany and the City of Alexandria, it is
doors for a while and that later they pany and the City of Alexandria, it is
money to the lamps at present in use. Do you
the lamps are trimmed properly in the power per square inch of the surlamps, which was in use before the
present lamps are trimmed properly in the power per square inch of the surlamps, which was in use before the
present lamps were installed, gave a
not run low voltage lamps at 6.6 ampresent lamps on the street.

| All Spinks | They say they could
manner that ight at lamps are trimmed properly in the power per square inch of the surlamps, which was in use before the
present lamps on the street.

| All Spinks | They say they could
manner that ight at lamps are trimmed properly in the power per square inch of the surlamps, which was in use before the
present lamps on the street.

| All Spinks | They say they could
manner that ight at lamps are trimmed properly in the power per square inch of the surlamps, which was in use before the
present lamps on the street.

| All Spinks | They say they could
manner that ight at lamps are trimmed properly in the power per square inch of the surlamps on the street.

| All Spinks | They say they could
manner that ight at lamps are trimmed properly in the power per square inch of the surlamps on the street.

| All Spinks | They say they could
| All Spinks | Mr. Spinks: They say they could the lamps would not burn. Now if street. I examined a lamp in the ies enclosed lamp of twenty amperes ing of the coiled pig tail bolder and power, and the intrinsic brilliancy provided that the company shall furthink that this is true?

The Chairman (interrupting): You nish eighty-five arc lights for street. Answer: I do not think that any several of these lamps go out on the test room up there. I examined one and put it in the globe without breakhad a personal interview with each lighting purposes, and such addition-

> latest type enclosed alternating arc fuminating radius was less?
>
> not. A short circuit on the telephone answered granted the lights are oppractically impossible to use such a gested ever had been made, and you at any light whose intrinsic brilliancy lamp of 2,000 candle power, and I Answer: It was. The old type of line might put out the lamp.
>
> actually to five or six. You can look on the telephone answered granted the lights are oppractically impossible to use such a gested ever had been made, and you at any light whose intrinsic brilliancy erated as 7.5 ampere lights they do? lamp of the enclosed type if it was say you know that they have all is not made to the lamp. Mr. Spinks: Suppose you would

fix one, and then fix another, and again, while they were fixing some of The Chairman: You mean it did the others. Our controversy has been necessary in any statement.

statements were made on information cent years have been based on that lamps are 7.5 amperes, and knowing contract is that section there that I is a 7.5 ampere system, do you or do Mr. Spinks: You have not read in dle power lamp, you not consider that those two cirthere that the city is to receive a 7½ Question: You

Mr. Faught: The only thing that you cross-examine ours, if you wish told you here. I have inspected the regulators as I told you and the plant; I don't know anything about the operating of the company, of

course, I am only there as an expert Questions by Mr. Fisher:

Mr. Fisher: How often do you volts what would be the results? come to Alexandria?

Mr. Faught: I make no stated tion in the relative ratio. I was here about the first of monly used ever gave 2,000 candle worked for any electrical concern but June, and previous to that time it was probably a year since I was here. Question: How long did you stay

Answer: During the day.

pany.

Answer: About twelve years.

Question: Those two years that you spent in the factory, are they the only actual experience that you have Answer: No, sir; continuously since that time, besides having had a

Question: Explain the principal parts of the enclosed Fort Wayne arc consume 450 watts? lamp. Answer: The series coils, shunt coils and adjusting spring, the clutch

and upper carbon holder will be considered the essential working parts justed it would not consume that? of the lamp.

Question: What is the series coil? Answer: That is the coil through

Question: Do you test by that coil Answer: I can't answer that question directly, the current passing through the lamp would be tested by inserting an air meter in the circuit. All the current passes through the Question: Is that the coil which rack up there.

disposed that could be done, of you test to see what is the amperage Answer: No, sir. That has noth an air meter in the circuit for the

> Question: What is the purpose of the shunt coil? Answer: It is connected in shunt- a lamp on the market that would ing across the arc. It takes a very small amount of current, perhaps three or four hundredths.

adjust the arc and maintain it at a standard voltage. Question: What is the use of the

Question: What is the top carbon dle power lamp? Answer: That takes the current I

carbon. Question: Testimony has been oflamps have been changed from 6.6 want to pay for it.

and see that they are all reading 71/2 ate at the new voltage-on the new couple of years.

Question: If you take the 6.6 am-

the lamp, would that make it?
Answer: If the current is changed The Chairman: That is what we that if they were unable to substitute it would not be readjusted to a 7.5 in your opinion a contract which call-necting the top carbon holders were used now. Just state what it means.

Mr. Harlow: This contract was a lamp in case one got out of order it ampere current. It would not need ed for an enclosed series alternating purchased, the change from brass Mr. Betts: The matter that Mr. Paught. It would not be readjusted to a 7.5 in your opinion a contract which call-necting the top carbon holders were used now. Just state what it means.

Mr. Harlow: This contract was a lamp in case one got out of order it ampere current. It would not need ed for an enclosed series alternating purchased, the change from brass Mr. Betts: The matter that Mr. prediction on the 9th day of Au-would look so. Mr. Spinks: We carried a lamp to spring would do what was necessary. the city \$75.00 per light per month That cost nothing but the expressage between intrinsic brilliancy and can-

> Answer: That is all. Question: You have never been in

Answer: No, sir.

The Chairman: I think that ques- Question: I understand that you people I could not look at the old Question: How long were you in tion is all right. Let him answer it, know that with the exception of the lamps without shielding my eyes, but lant?

Answer: Possibly a couple of the city provides that it shall pay \$75 mendations you made for improvely.

Mr. Faught: I have not been into hours in the afternoon. I don't re- per light per year for an enclosed ments were carried out?

gement? ampere light would comply with the facturers are able to improve the Mr. Faught: It might or it might conditions of that contract, and you globes so that they will stand it, it is

Question: You are assuming that

Answer: Yes, sir. That would be made and put on these streets at \$75 the contract? ecessary in any statement. per year each at a profit. Do you Answer: Prov Question: You have never seen know anything about the other con- kept up, yes, sir.

Mr. Faught: Yes, sir, for the last nothing about the light. Question: Could you go to the plant in the day time and examine lamp at that price at a profit? the meters and tell what they were

Question: You speak of 7.5 am-Mr. Faught: I don't know that, pere lamps consuming 450 watts- candle power lamps at that figure to the behavior of the individual in use is this city before the new think so. I said any lamp consuming privilege of using the poles of the

properly adjusted?

course, you must take into considera- desire to cross-examine the witness, thing about the Alexandria. Weller other amount that would be necestion the voltage of the lamp.

I should like to say that white we thing about the Alexandria. Weller other amount that would be necestage.

of the 7½ amperes into the volts across the terminals of the lamp into the power factor. Question: If there are 71/2 am- Not actual candle power. peres to obtain 450 watts, what would

have to be the voltage? result seventy-two volts. Question: If it were operated at 40

Answer: There would be a reduc-Question: If it were operated at 40 volts what would be the result? Answer: The lamp would not oper-

ate at 40 volts. Question: Can you operate 6.6 poses?

Question: What is your connec- with 7.5 ampere lamps? Question: How long have you been draw too much voltage. The wattage own initiative, that they would fur-For could cut them down enough to oper- \$75 per year, from my understandtwo years of that time I was in the are satisfactorily would depend on ing of your answer the bidder had no

Question: You say you saw the of his bid? Answer: Yes, for a number of

For those months that I months. read off for you just now. Question: When did you see that? Answer: Today.

Question: You state that a 71/2 ampere lamp properly adjusted would Answer: Adjusted with a termin-

al voltage of 78 volts, was it? Question: And if not properly ad-Answer: It might consume more

or might consume less. Question: You also stated assumstate of cleanliness?

Answer: It is the same as a dirty window. Question: I understand you to say you examined one of the lamps of this company. What lamp?

Answer: I could not say what lamp. It was a lamp on their test

ment. Mr. Spinks: Mr. Hill asked about called at the request of the Alexanthe lamps the other time. say that there is at the present time to him answered as follows:

It is to the city? Mr. Betts: It depends on what you would-Mr. Hill (interrupting): Can the you considered were the requirements Alexandria Electric Company have a of the contract made with the city? Answer: To adjust the arc voltage lamp made that will carry out the

out the contract made by the

Answer: That is the mechanism could your company, the General made certain recommendations which tween themeselves. Electric Company, make a 2,000 can- you thought ought to be carried out Mr. Faught: It could not. Well, light, in regard to trimming lights, make this statement here. A proper from the frame of the lamp into the lamp, but it would have to be a

Mr. Faught: Very little.. I sup-

first turned on the arc lamp, if the as a 2,000 candle power lamp?

Questions by Mr. Harlow:

lighting purposes?

Mr. Faught: No. sir. made and put it in use at the price of \$75.00 per light per year, and would

tion Mr. Spinks: I don't object to the additional expense and Mr. Kirby bright as the old lamps. Generally

question. arc lamp of 2,000 candle power, in

Question: You did not make any company could furnish that light at lamps are trimmed properly in the power per square inch of the sur-

Answer: Yes, sir.

conditions in there under which it would be possible to furnish this Mr. Faught: Any sort of condi-

tions could be established Answer (interrupting): I don't and this company was to have the lamps? the surrounding country with power orado Springs case. Question: You don't know wheth- and light, and we get 5 per cent of

Mr. Fisher: In your direct examination you stated that no street light

Mr. Faught: For street lighting,

word generally? Mr. Faught: In commercial use.

would run way up. Whether you nish a 2,000 candle power light at intention of complying with the terms

Mr. Harlow: Are you assuming the could be asked. Mr. Fisher: Yes, sir, the actual facts, we have in our possession the bid in which the bidder uses those I will furnish so many are terms.

lights of 2.000 candle power, and so Mr. Harlow: We have the bid.

\$75 per light per year, the number of lights not to be less than eighty-"This proposition is based upfive. on 2,000 candle power arc lamps for street lighting purposes."

Mr. Fisher: Assuming then that

dria Electric Light Company, in ans-Mr. Hill: Did I understand you to wer to interrogatories propounded Questions by Mr. Harlow: Mr. Harlow: Have you a copy of

What recommendations do you mean?

Mr. Faught: No, sir; not for street bons be placed in the lamp, and stat- over again, and you are not going to ed that several had been gotten from make any headway discussing that the Potomac Company and placed in here. Mr. Harlow: Have you ever known some of the lamps that were the worst and that since that time the Mr. Betts answer such questions as

lamps appeared to be doing better. are asked him. Question: From your personal ledge the coiled pig tail holder con- come to be used, and whether it is mendation with regard to trimming lamps were first installed most of Mr. Fisher: I object to that ques- the lamp was never carried out so the members of the committee said far as I know. It involved a slight that they did not appear to be as

called it bosh. Mr. Harlow: The contract with method of trimming all the recom- these don't affect my eyes, apparent Answer: Yes, sir.

ning about their supplies, of course.

Mr. Spinks: You have made no exmination of the lamp?

Question: You say you inspected your opinion, considering the light Question: Are you familiar with the eye does not measure candle which it would be possible to furthe contract between this company power. It measures what is called nish under that rate, could this have and the city, and know what sort of intrinsic brilliancy. The candle

Answer: No, sir; I was just about put the company in a position to fully flame has an area of two or three

Answer: It would.

ent difficulty, if there is any, was in candle power. The eye measures the the behavior of the individual lamps? brilliancy of the source of light per Answer: Yes, sir.

Answer:

er these lamps here on the streets are the gross receipts from the current mony made the statement that one- only way in which you can determine properly adjusted?

sold in the city and nothing from third of the lamps were never changas to the merit of the two lights is properly adjusted?

Mr. Faught: I have not read the contract, have you?

Mr. Faught: I should say they Mr. Fisher, do you

Mr. Harlow: Mr. Fisher, do you

Mr. Spinks: You don't know anyshold like to say that white we should like to cross-examine the witness. Should like to say that white we should like to cross-examine has told you, do you?

Mr. Faught: I have not read the terms of this contract, have you?

Answer: I have not made any intention of the city and nothing from the city and

sary to make 450 watts.

Answer: It would be the product of the 7½ amperes into the volts made of 2,000 candle power?

Mr. Fisher: I understand you to say that there are no street lights made of 2,000 candle power?

Mr. Fisher: I understand you to tained by an examination of the conmake the amount of illumination struction ledger, if the present company is in possession of that ledger. My acquaintance with the first super- hundred and fifty or that if the proper coils were pur- service. It is very different to measchased and supplied to him, he would ure the actual candle power of an Answer: In order to produce that generally used was ever 2,000 candle have put them in the lamp. That are lamp. It is very much less than can be readily settled. I have no people think it is, due to the intrinsic positive knowledge about that, nor I brilliancy. There has always been think has any man that is now con- the opinion by those who looked at nected with the company. There is the lamps that an arc lamp had a

The Chairman: You mean Mr. ies of 7.5 ampere give a greater or

Mr. Betts: Yes, sir. That is his open are Schuyler light? name. state-if you have any objection to les about twice as great as the old doing so you need not answer this lamp. At the point immediately unquestion-in your opinion as an ex- der the lamp is it not as great, but pert electrician, and from your cb- at a point one hundred and fifty feet servation and knowledge of Mr. Kir- away the 71/2 amphere light gives by and Mr. Lloyd, do you regard about twice as much light. either of these gentlemen as quali- Question: For effectiveness in

ters of this kind? question. The Chairman: I don't think that fore.

port to be filed at the next meeting of council must necessarily be based, at least in part, upon the testimony given before this committee by Mr. Kirby and Mr. Lloyd. It seems to me therefore, highly important to find determined is to find out what is the opinion of tahose who are qualified to know and who do know. We are all laymen, and we may say we know nothing about the subject of electricity. If you are to pay attention to the testimony of Messrs. Lloyd and put in. Kirby you ought to determine how much weight should be given that If they are experienced their testimony should be considered.

tee ought to know it. Mr. Fisher: Have you any knowl-

electrician? Mr. Betts: I have. I would like tent. Sluggishness of the lamps was to say that the opinion of one ex- materially improved at that time, but pert expressed about another's char-acteristics or abilities don't appear Question: Why not? acteristics or abilities don't appear to me to have much bearing on the subject. I don't think one witness ness in the regulators at the p ought to make any statements of

that kind about another. Mr. Spinks: I don't think there is any opjection on the part of the from the Fort Wayne factory said being used to bring them up to what committee. It is a matter for this they they were operating as well as committee to determine as to the he was able to make them operate. qualifications. We know that Mr. Kirby has been employed by the city and by the Alexandria Electric Com- the system? pany. As to the personal opinion of Question: I understand that you different experts, that is a matter be- just.

Mr. Betts. I don't think the witin order for the city to get the proper nesses are on trial. I would like to satisfactory? to the credibility of any witness. The matter of candle to be sluggish?

Mr. Harlow: Answer: To my personal know- of candle power and how did it first speaking it was said by a great many Question: I understand that you people I could not look at the old

due to: That is a fact just as they

less amount of light than the 9.76 Mr. Betts: At one hundred and Mr. Harlow: I will ask you to fifty feet the illumination delivered

fied to give expert testimony on mat- street lighting is the lamp which we have at present in the city better or Mr. Fisher: That is an improper not as good as the old style lamp. I mean the one that they had here Answer: That was a 6.6 ampere

> Questions by Mr. Fisher: that a coiled pig tail holder be put in, that the trimming of the lamp be changed, and that new dash pots be

Question: caps? Answer: burned up in the lamps they were put in. There was considerable trouble in the burning of gas caps, and if the trimmings had been changed as I directed a great deal of that trouedge of Mr. Kirby's experience as an ble would have been eliminated, but the burning continued to a great ex-

> Answer: Due to some sluggish-Was any effort made Question:

to change the regulators? Answer: A man who was here ed, were they, after this change in

Answer: There was nothing to ad-I suppose the trouble was in

the design. Question: Were they ever made Answer: No change was ever made

Answer: Yes, sir. A man from

Question: That caused the lamps

same and occupation.

gaged mostly in working on arc lamps are measuring up to the con- that they are operating at 71/2 am-

would allow me to be present-

ent, Mr. Harrison, but you were pres- Company, in your opinion these lamps to the lamp.

by saying that we are prepared to show that many of the statements are not true, that other statements lamp should be one consuming 450. are not true, that other statements lamp should be one consuming 450 and 40 degrees.

Mr. Faught: I don't know that are only half true, and that other watts, and the contracts made in reand belief, and made about things of figure.

Mr. Fisher: I move that Mr. Har- tion the voltage of the lamp.

lamp in a great many contracts. ance with the request in that 450 watt rating. Mr. Kirby was asked to at-He ting series arc of 2,000 candle power

on to prove what statements made to be used? n, which was unanimously car-

consuming 450 watts. these witnesses put under oath

r. Harlow: We would like to whether or not the committee knowledge as to the amount of wat-We will if we have lamps now in use here? right to do that.

hat would give you the power.

Mr. Harlow: Then what is the obrequirements of a 2,000 candle power

r. Fisher: I move that it be left The Chairman: That is for Mr. October it was-Mr. Harlow: I desire to say that from the records of the Alexandria penses, and I suppose they are usual-

swear to their statements these wit- 15,513; April 13,193; May 13,312, current up that far? The record shows that there were And thereupon Mr. R. C. Faught, eighty-six lamps in service. I might ity of companies do that usually, clutch? who appeared at the request of the add that the figures I gave for the rather than run their arc lamps too Alexandria Electric Light Company, average watt consumption of each low. They want to be on the safe on interrogatories propounded to lamp were based on the May record. side.

Question: What experience have or would you not say, in your opin- thing of your own personal know- What would be necessary in order to exandria Electric Company? Answer: For twelve years I have lamps are measuring up to the rebeen with the General Electric Com- quirements of the contract I quoted pany, having been for two years of from? that time in their factory and en-

The Chairman: That is what we

entered into on the 9th day of Au- would look so. gust, 1906. Can you state whether Mr. Spinks:

Mr. Faught: It was. Question: Have you had occasion lamp?

the same, assuming that the globes examine the witnesses, the committee and the city, and know what so unanimously agreed and I was notineed to attend the first meeting of the ledge of cases that have come up unserving the committee. I attended the meeting of Alexandria that the old Schuyler there.

Instrument and the city, and know what so a lamp that contract calls for?

Answer: I make never been sampled in proper state of cleaniness. Animation of the lamp.

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Answer: I make never been sampled in proper state of cleaniness. Animation of the lamp w Answer: I have never been sum- were in a proper state of cleanliness. amination of the lamp?

one of the committee, and personally all are lights as the City Council may each one, they had no objection, but from time to time order, during the each one, they had no objection, but from time to time order, during the each one, they had no objection, but from time to time order, during the each one, they had no objection, but from time to time order, during the each of the committee, and personally all are lights as the City Council may to an enclosed lamp?

Answer: No, sir; I was just about put up again they go out again, would after reading a clause of this company's contract with the city, if a 7.5

I thought that as Chairman I had continuance of the contract, that is while the old Schuyler light was

plant, and the lights now furnished horizontal, which made a very bril- then fix another, and then the one these lamps are operated at 7.5 am-Mr. Harlow: You were not pres- this city by the Alexandria Electric liant illumination in close proximity that they had fixed would go out peres? hearing.

Answer: Granted that those lamps
The Chairman: Probably the rea- are operated at 7½ ampere, they do son he did not see you, Mr. Harrison, fulfill that specification.

Answer: Granted that those lamps
Mr. Faught: Exactly. The alterabout now. You state that it has the watt meters in operation, have distributes its maximum candle powampere lamp is a nominal 2 000 car.

Answer: Granted that those lamps
Mr. Faught: Exactly. The alterabout now. You state that it has the watt meters in operation, have distributes its maximum candle powampere lamp is a nominal 2 000 car.

What is the watter operated at 7½ ampere, they do nating arc lamp of the enclosed type distributes its maximum candle powampere lamp is a nominal 2 000 car. Question: What is the generally er at say 40 degrees below the hori
Question: What is the generally er at say 40 degrees below the hori
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Question: What is the general er at say 40 degrees below the hori
Question: What is the general error of the properties of the propertie members and that constituted a ma- accepted meaning in the electric zontal, and between the horizontal

Mr. Spinks: We have met before. Mr. Spinks: Mr. Hill, Mr. Harlow

tive of the Fort Wayne people? Mr. Spinks: I want to read from a letter of Mr. Betts' to you, when he the first of June? Answer: From the fact that in the was representing the Alexandria Elece Chairman thereupon put the early days no measurements were tric Company. (Reading) For the made, and they just estimated the next few months, at least, I shall be tion or association with the Alexanlight given by the lamps and esti- charge of all physical matters con- dria Electric Company? nected with the Alexandria Electric Question: Was that term 2,000 Company and in this connection on Mr. Weller as a traveling sales- ate. lamps used for street lighting on the Answer: No. sir. And I explained series alternating current system have

> ent in use in the streets of Alexan- matter up with you at your conven- time on arc lamps, and I have been dria can be shown to consume 450 jence. That was a letter written to traveling for them about ten years. log sheet for two months? Now I want to ask you if anyrequirements of this contract, in your thing was done, as far as you know. Mr. Faught: I do remember that

> > Mr. Spinks: Would it not be possi-

Mr. Spinks: Who furnished this for the amperage of the lamp? Mr. Faught: Mr. Weller. I got it Mr. Spinks: It could be so that Question: Can you state the total proper records were not made?

at a stated volt. Question: What is the use of the by which the carbon is fed. holder?

contract they made with the city? Mr. Betts: Yes, sir. Mr. Spinks: Now, I want to ask,

will say that they could make that or carbons, changing coils, etc. I analysis of the facts will bring out ommendations were. twenty ampere lamp. Mr. Spinks: It could be made? Mr. Faught: Of course, if you fer to improvements in the behavior of substitution of new lights is a

you will remember I said. Mr. Fisher: What did mean by the

Mr. Fisher: You said no lamp ever he gave that light for street light purampere lamps on the same series Mr. Faught: That is what I mean. Mr. Fisher: Mr. Harlow asked Answer: Not satisfactorily. You you this question if the company might be able to adjust the lamps could furnish 2,000 candle power Answer: None, except that I call down in voltage and get them to oper- lamps at \$75 per year, assuming The effect would be this if you that the bid was submitted to the thesses be sworn, if that is nections of the class of the conditions of the condition of the conditions of the condition on the same circuit the lamps would upon the part of the bidder, on his

actual conditions of this contract?

Mr. Fisher: The city has the or- out whether or not in the opinion Mr. Harlow: Here is a copy of it: mony of Mr. Kirby and Mr. Lloyd coiled pig tail holders were put in?

"I will give for the franchise and The only near the next that the coiled pig tail holders were put in? iginal bid in its possession. present electric plant and equipment' franchise for thirty years, and would opinion of those who are qualified so much, provided he receive the furnish arc lamps of 2,000 candle which the main current of the circuit ing that the globes were in a proper power, for which he was to receive

> bidder had no intention of complying If they are not qualified this commitwith the terms of the contract? Mr. Faught: I should say that he Question: Not one on the street? intended to furnish the 2,000 candle Answer: I was told it came off the power lamp, so-called, in common street and was in there for adjust- use. Thereupon Mr. Philander Betts, re-

Alexandria Electric Company with the recommendations that you made to the company with a view of Mr. Betts: I have my letters, yes.

want you to testify what those rec- all that needs to be known in regard Answer: My recommendations re- This matter in regard to the purchase of the lamps. Those recommenda- mere matter of fact that can be deter- the factory was brought here Mr. Fisher: Do you sell to the Al- tions were made about a year after mined starting from that point. If change them. He said they were all the lamps had been changed from these coils are changed in good faith, right. 6.6 to 7.5 ampere. On January 30, and if they were not, I think some Answer: You would change the post my dealings with them amount 1909, I addressed a letter to Mr. sub-ordinate would be responsible gish? made an inspection of the regulators, coils in order to make the lamps oper- to five hundred dollars in the last McIver, at Media, Pennsylvania, in for it. If they were changed it comes which I made the recommendations down to this one thing: the behavior Mr. Harlow: Have you ever heard after I had looked over the situation of the lamps. That is largely based Question: When the current is of any company making such a lamp in which I recommended that a coiled on opinion. pig tail holder for holding the car- power has been thrashed over and

stated and the reason for it is that power is the total candle power given Answer: Yes, sir. by the lamp in any given direction. Question: Assuming that these The intrinsic brilliancy is the candle comply with its contract with the squart inches, say it given 16 candle power that is in intrinsic brilliancy The actual candle power only amounts in your opinion these changes would customary 16 candle power lamp is Mr. Spinks: You were asked if a give the city at the present time a given off of such a small area that 2,000 candle power lamp could be lamp that would fully comply with the actual candle power per square inch is somewhat between two and Answer: Provided the current was three hundred. Take the ordinary lamp. If it gives anywherer near a Question: I understand from the thousand candle power you could not testimony previously given you stat- look at it at all. The intrinsic bril-ed that the system as a system was a liancy of the sun is somewhere be-7.5 ampere system, and that the pres- tween five and six hundred thousand square inch and the pupil of the eye Question: So that if this company contracts, more or less, depending is not living up to the requirements on the intrinsic brilliancy. its contract with the city that brilliant light makes the candle power Mr. Spinks: We were to get 2,000 failure is not due to its system, but small-with the old open arc lamp system was installed when you look That opinion coincides ed at the lamp you got the 450 watts was a nominal 2,000 can-city and the streets, and to furnish exactly with the decision in the Col- the intrinsic brilliancy while in the enclosed arc lamp, it is much lower, Question: Mr. Kirby in his testi- it appears not nearly so bright. The intendent would lead me to believe feet-the measure of the amount of

> a man who knows who has been candle power very much higher than working as a machinist at the Emer- it would actually measure. working as a machinist at the son Pump Works, he knows, because the enclosed alternation are lamp serthe enclosed alternation are lamp serthe enclosed alternation are lamp serther as a greater or

lamp, that was called a 1,200 candle the report already filed and the rewould be an improvement on the old system. Question: On January 30, in your letter you made recommendations

> Answer: Yes, sir. Question: To your knowledge? Answer: Yes, sir. The method of trimming was not changed to my knowledge, but the dash pots were

Question: They were put in, were

Question: They were never adjust-

in them that I know of. Question: Was any effort made to change them?

Question: